1. A handheld device for detecting and identifying radioisotopes, comprising:

a cadmium zinc telluride (CZT), gamma-ray sensor configured to produce gamma-ray data;

a processor;

a memory coupled to the processor, the memory configured to store instructions executable by the processor;

a multi-channel analyzer (MCA) coupled to the gamma-ray sensor and processor, the MCA configured to produce pulse height data corresponding to the gamma-ray data;

a fuzzy-logic component coupled to the MCA and processor, the fuzzy-logic component configured to compile a ranked listing of radioisotopes corresponding to the pulse height data; and

an interface coupled to the fuzzy-logic component, the interface configured to convey a signal containing the ranked listing of radioisotopes from the fuzzy-logic component to a display component,

wherein a combination of the gamma-ray sensor, processor, memory, MCA, fuzzy-logic component, and interface are sized to be held in a person's hand.

2. The device of claim 1, further comprising a display component configured to receive the signal and display a visual indication of the ranked listing.

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3. The device of claim 2, further comprising:

a first housing configured to receive the gamma ray sensor, processor, memory, MCA, fuzzy-logic component, and interface; and

a second housing configured to contain the display component.

4. The device of claim 3, wherein the first housing further comprises a recess configured to subtend the second housing.

5. The device of claim 4, wherein the first housing is sized to be held in a person's hand.

6. The device of claim 2, wherein the display component is a personal data assistant.

7. The device of claim 1, wherein the fuzzy-logic component further comprises:

a peak search component configured to produce peak search data by analyzing the pulse height data;

a peak analysis component configured to produce a peak analysis weighting value by analyzing the peak search data;

an energy-level component configured to produce an energy-level weighting value by comparing an energy level of a peak from the pulse height data to an energy level of a peak from a library of known isotopes;

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a matching component configured to produce a matching weighting value and a listing of radioisotopes by analyzing the energy-level weighting value and the peak analysis weighting value; and

a ranking component configured to produce the ranked listing of radioisotopes by analyzing the matching weighting value and the peak analysis weighting value.

8. The device of claim 7, wherein the peak analysis component comprises:

a peak significance component configured to produce a peak significance weighting value;

a peak symmetry component configured to produce a peak symmetry weighting value; and

a peak parity component configured to produce a peak parity weighting value.

9. The device of claim 1, wherein the gamma-ray sensor component comprises

a Coplanar-grid CZT, gamma-ray sensor.

10. The device of claim 9, wherein the gamma-ray sensor is configured to operate at temperatures ranging from about -10° to about +50° Celsius.

11. The device of claim 9, wherein the gamma-ray sensor has a resolution better than 3.5% full-width half-maximum (FWHM) at 662 KeV.

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12. The device of claim 1, wherein the interface is a serial port.

13. The device of claim 1, wherein the interface is an infrared port.

14. The device of claim 1, further comprising:

a digital pulse height correction component for correcting the pulse height data.

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15. A handheld device for detecting and identifying radioisotopes, comprising:

sensor means for sensing gamma rays employing cadmium zinc telluride (CZT), the sensor means configured to produce gamma-ray data;

processor means for executing instructions;

memory means for storing instructions executable by the processor, the memory means coupled to the processor;

MCA means for performing multi-channel analysis (MCA), the MCA means coupled to the sensor means and processor means, the MCA means configured to produce pulse height data corresponding to the gamma-ray data;

analysis means for compiling a ranked listing of radioisotopes corresponding to the pulse height data, the analysis means coupled to the MCA means and processor means; and

interface means for conveying a signal containing the ranked listing of radioisotopes from the analysis means to a display means, the interface means coupled to the analysis means,

wherein a combination of the sensor means, processor means, memory means, MCA means, analysis means, and interface means are sized to be held in a person's hand.

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16. A handheld device for detecting and identifying radioisotopes, comprising:

a cadmium zinc telluride (CZT), gamma-ray sensor configured to produce gamma-ray data;

a processor;

a memory coupled to the processor, the memory configured to store instructions executable by the processor;

a multi-channel analyzer (MCA) coupled to the gamma-ray sensor and processor, the MCA configured to produce pulse height data corresponding to the gamma-ray data;

a fuzzy-logic component coupled to the MCA and processor, the fuzzy-logic component configured to compile a ranked listing of radioisotopes corresponding to the pulse height data;

a neutron sensor configured to produce an indicator when neutrons are detected; and

an interface coupled to the neutron sensor and the fuzzy-logic component, the interface configured to convey a signal containing the indicator and the ranked listing of radioisotopes from the fuzzy-logic component to a display component,

wherein a combination of the gamma-ray sensor, processor, memory, MCA, fuzzy-logic component, neutron sensor, and interface are sized to be held in a person's hand.

17. The device of claim 16, further comprising a display component configured to receive the signal and display a visual indication of the indicator and the ranked listing.

18. The device of claim 17, further comprising:

a first housing configured to receive the gamma ray sensor, processor, memory, MCA, fuzzy-logic component, neutron sensor, and interface; and

a second housing configured to contain the display component.

19. The device of claim 18, wherein the first housing further comprises a recess configured to subtend the second housing.

20. The device of claim 19, wherein the first housing is sized to be held in a person's hand.

21. The device of claim 17, wherein the display component is a personal data assistant.

22. The device of claim 16, wherein the fuzzy-logic component further comprises:

a peak search component configured to produce peak search data by analyzing the pulse height data;

a peak analysis component configured to produce a peak analysis weighting value by analyzing the peak search data.

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an energy-level component configured to produce an energy-level weighting value by comparing an energy level of a peak from the pulse height data to an energy level of a peak from a library of known isotopes;

a matching component configured to produce a matching weighting value and a listing of radioisotopes by analyzing the energy-level weighting value and the peak analysis weighting value; and

a ranking component configured to produce the ranked listing of radioisotopes by analyzing the matching weighting value and the peak analysis weighting value.

23. The device of claim 22, wherein the peak analysis component comprises:

a peak significance component configured to produce a peak significance weighting value;

a peak symmetry component configured to produce a peak symmetry weighting value; and

a peak parity component configured to produce a peak parity weighting value.

24. The device of claim 16, wherein the gamma-ray sensor component comprises a Coplanar-grid CZT. gamma-ray sensor.

25. The device of claim 24, wherein the gamma-ray sensor is configured to operate at temperatures ranging from about -10° to about +50° Celsius

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26. The device of claim 24, wherein the gamma-ray sensor has a resolution better than 3.5% full-width half-maximum (FWHM) at 662 KeV.

27. The device of claim 16, wherein the interface is a serial port.

28. The device of claim 16, wherein the interface is an infrared port.

29. The device of claim 16, wherein the neutron sensor is a helium-3 proportional counter.

30. The device of claim 16, further comprising:

a digital pulse height correction component for correcting the pulse height data.

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31. A handheld device for detecting and identifying radioisotopes, comprising:

a cadmium zinc telluride (CZT), gamma-ray sensor configured to produce gamma-ray data;

a processor;

a memory coupled to the processor, the memory configured to store instructions executable by the processor;

a multi-channel analyzer (MCA) coupled to the gamma-ray sensor and processor, the MCA configured to produce pulse height data corresponding to the gamma-ray data;

a fuzzy-logic component coupled to the MCA and processor, the fuzzy-logic component configured to compile a ranked listing of radioisotopes corresponding to the pulse height data;

a neutron sensor configured to produce an indicator when neutrons are detected;

an interface coupled to the neutron sensor and the fuzzy-logic component, the interface configured to convey a signal containing the indicator and the ranked listing of radioisotopes from the fuzzy-logic component to a display component; and

a display component configured to receive the signal and display a visual indication of the indicator and the ranked listing,

wherein a combination of the gamma-ray sensor, processor, memory, MCA, fuzzy-logic component, neutron sensor, display component, and interface are sized to be held in a person's hand.

32. The device of claim 31, further comprising:

a first housing configured to receive the gamma ray sensor, processor, memory, MCA, fuzzy-logic component, neutron sensor, and interface; and

a second housing configured to contain the display component.

33. The device of claim 32, wherein the first housing further comprises a recess configured to subtend the second housing.

34. The device of claim 33, wherein the first housing is sized to be held in a person's hand.

35. The device of claim 31, wherein the display component is a personal data assistant.

36. The device of claim 35, wherein the personal data assistant is configured to transmit a message instructing the neutron sensor and the gamma ray sensor to begin detection, and

wherein the interface is configured to receive the message and instruct the neutron sensor and gamma ray sensor to begin detection.

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37. The device of claim 31, wherein the fuzzy-logic component further comprises:

a peak search component configured to produce peak search data by analyzing the pulse height data;

a peak analysis component configured to produce a peak analysis weighting value by analyzing the peak analysis data;

an energy-level component configured to produce an energy-level weighting value by comparing an energy level of a peak from the pulse height data to an energy level of a peak from a library of known isotopes;

a matching component configured to produce a matching weighting value and a listing of radioisotopes by analyzing the energy-level weighting value and the peak analysis weighting value; and

a ranking component configured to produce the ranked listing of radioisotopes by analyzing the matching weighting value and the peak analysis weighting value.

38. The device of claim 37, wherein the peak analysis component comprises:

a peak significance component configured to produce a peak significance weighting value:

a peak symmetry component configured to produce a peak symmetry weighting value: and

a peak parity component configured to produce a peak parity weighting value.

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39. The device of claim 31, wherein the gamma-ray sensor component comprises a Coplanar-grid CZT, gamma-ray sensor.

40. The device of claim 39, wherein the gamma-ray sensor is configured to operate at temperatures ranging from about -10° to about +50° Celsius.

41. The device of claim 39, wherein the gamma-ray sensor has a resolution better than 3.5% full-width half-maximum (FWHM) at 662 KeV.

42. The device of claim 31, wherein the interface is a serial port.

43. The device of claim 31, wherein the interface is an infrared port.

44. The device of claim 31, wherein the neutron sensor is a helium-3 proportional counter.

45. The device of claim 31, further comprising:

a digital pulse height correction component for correcting the pulse height data.

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